

BARRICK
BARRICK RESOURCES (USA), INC.

Waye

RECEIVED

JUL 15 1992

July 10, 1992

**DIVISION OF
OIL GAS & MINING**

Don A. Ostler, Director
Division of Water Quality
Utah Department of Environmental Quality
P. O. Box 144870
Salt Lake City, Utah 84114-4870

RE: Stipulation and Consent Order
Docket No. GW-90-03-A

*Proposed
Detox + Neutralization
Plan for Dump
Leach Area #2*

Dear Mr. Ostler:

Barrick is in receipt of your letter dated June 15, 1992. After careful review and consideration, we are concerned that the Division has misinterpreted the neutralization plan component of our March 27, 1992, submittal. We believe this situation warrants a meeting with you, Fred Nelson, and Barrick counsel and management as soon as possible. We will contact you to schedule such a meeting.

Barrick intends to utilize detoxified reclaim water to accomplish the initial reduction of cyanide levels within Area 2. This will be followed by a winter rest period for natural degradation and subsequent chemical detoxification if warranted to achieve an appropriate level of detoxification consistent with the Area 2 consent Order.

The construction permit issued in September 1986 for Area 2 specified a cyanide-total rinsate value of 5 mg/l to be achieved. This value is conceptually achievable under our proposed detoxification plan. The request for rinsate water quality standards based on primary drinking water maximum contaminate levels is extremely stringent and most likely not achievable, but an attempt to reach these objectives will be made within economic constraints.

We have prepared a narrative description of the neutralization plan components which is attached for your review. We trust that as a result of our upcoming meeting, we can achieve

a mutually agreeable resolution to the closure of Area 2. After this initial meeting, we hope subsequent meetings can be scheduled among the technical representatives from Utah Department of Environmental Quality and Barrick.

Respectfully,

A handwritten signature in black ink, appearing to read 'Clayton L. Landa', written over a horizontal line.

Clayton L. Landa
Vice President and General Manager

cc: D. R. Bird (PB & L)
F. Nelson (Assistant Utah Attorney General)
K. Alkema (UDEQ)
M. Bateman (Tooele County)
G. Shelley (Utah County)
L. Braxton (UDOGM)

Valley Fill Leach Area 2

Neutralization Plan and Schedule: Conceptual Draft No. 3

- Neutralization Goal:
- (1) Utilize detoxified reclaim water, natural degradation, and possibly chemical detoxification to achieve a cyanide-total value of 5 mg/l and a pH values between 6-9.
 - (2) Minimize the application of potable quality water during detoxification.
- * Cessation of dilute sodium cyanide solution application to Area 2 occurred during July, 1992. Flushing of solution distribution lines with detoxified tailings reclaim solution to minimize line scaling has been initiated and will continue until all lines are flushed.
 - * Drawdown of the solution contained in the ore will begin immediately upon the completion of distribution line flushing. But no later than 07/31/92. Drawdown will occur by gravity draining assisted by the Area 2 cistern pumping, pumping schedules will be directed by the 20 foot pool depth restriction in the current permit. Additional dewatering of Area 2 will be accomplished by the area 2 leakage collection system. Operational history suggests that drawdown of solutions can be effectively accomplished in 7 days. Leakage solutions will be initially recirculated to the cistern for pumping to the mill leaching circuit. All Area 2 cistern pumping will be accommodated by the existing Area 2 pumping and piping facilities (see attached drawing).
 - * Sectional rinsing of Area 2 will be required. Approximately 1/4 of the Area 2 surface area can be irrigated at any one time at a rate of 600 to 700 GPM. This will result in the initial sectional rinsing of ±700,000 to 1,200,000 tons of in place ore with detoxified claim water. Variations to the application rate of reclaim will be directed by the plant process water balance. Existing solution distribution equipment limitations, and the Area 2 pool depth level limitations. Application of rinse solutions will be accomplished using sprinklers to achieve more complete and rapid coverage.
 - * It is anticipated that the current configuration of Area 2 will require rinsing in 4 sections at a projected rinsing solution application rate of 600 to 700 GPM. A 10 day period is currently projected to establish steady state flow through conditions of reclaim rinsing solutions through each section. All rinsing solution application procedures will be patterned after the learned experience and expertise obtained during the 6 years of Area 2 operation for gold recovery.

- * Rinsing with detoxified reclaim solution will continue sectionally through the summer and fall, ceasing with the onset of freezing conditions. It is anticipated that a minimum of 2 rinsing sequences per section will be completed prior to winter reclaim solution will cease and the ore will be drained. During the winter period, it is anticipated that the ore will undergo additional incremental cyanide degradation as a result of continued oxidation and bacteriological action. In addition precipitation falling on Area 2 will assist in additional flushing, monitoring of precipitation rinsate will be performed during the rest period to determine the extent of detoxification and/or the need for further rinsing. Dewatering of precipitation solutions will be accomplished via the cistern and leakage collection system.
- * The construction permit issued by the tehcn Bureau of Water Pollution Control September 15, 1985, under which Area 2 has operated for the extraction of gold, requires the rinsing of the ore to achieve a cyanide content of less than 5 PPM total cyanide. An additional standard for ph of 6-9 is also appropriate. These standards will be applied to the quality of available rinsate with the onset of warmer spring weather in late March or early April. Should the rinsate at that time exhibit characteristics in excess of these values, the initiation of chemical detoxification procedures will occur. Chemical cyanicides currently under consideration include hydrogren peroxide and liquid sulfur dioxide equipment.
- * In the event chemical detoxification of Area 2 is necessary to meet the desired rinsate quality standards, the sectional application procedures described above for the application of the reclaim solution will be followed.
- * Monitoring of all detoxification solutions will occur throughout the entire detoxification period. Reclaim rinse solution, resultant rinsate solutions, and leakage collection system solutions will be monitored on an appropriate basis. Weekly field grab samples will be obtained for these solutions and analyzed on-site for cyanide-total and pH. Monthly composite samples will be obtained and analyzed for cyanide-total and pH to determine compliance. Additional analyses may be performed to assist in refining the detoxification potential of the rinsing solution. Aside from solution characteristics, additional information will be monitored such as circuit solution flow rates, precipitation events, and average temperature and wind velocity.
- * The determination of compliance with established rinsate quality standards will be determined by analyses performed by outside, certified analytical laboratories.

- * Reports pertaining to the detoxification program for valley fill leach Area 2 will be submitted to the UDWQ on a quarterly basis consistent with condition 1 of the consent order. Reports will consist of the following:
 - Quarterly groundwater monitoring data for Well 9
 - Monthly outside analytical data for detoxification solutions
 - Weekly on-site analytical data for detoxification solutions
 - Monthly average flow rates for detoxification solutions
 - Monthly meteorological data
- * Detoxification will be considered complete when approved in writing by the executive secretary.
- * Closure procedures will commence with the approved completion of detoxification.